



EDITION: MARCH 2008

BOTTOM VALVE 4'

TYPES: BV4M-BV4S



INSTRUCTIONS FOR INSTALLATION, USE & MAINTENANCE



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1. MARKING

1.1 Technical characteristics label

A label as the one shown below is placed on each bottom valve.

EMHKAM PUMPS BOTTOM VALVE DN100 FOR INTERNAL USE	
TYPE : B100	SERIAL No:
MAX WORKING RESSURE:4 bar	HYDRAYLIC PRESSURE: 6 bar
MANUFACTURED: -----	MAX WORKING TEMPERATURE:250 C
NOTIFIED BODY: 0437	

BV4M= for metallic tankers **BV4S=** for inox tankers

1.1 Installation

Stamp and signature for both constructor and installer are filled below.

FOR THE MANUFACTURER

INSTALLER


Date:

Date:



Information included in each label (**identification with serial number**) has to be familiar in order for the reference on them to be easy when they get asked. This can happen in case of spare parts ordering from the construction company where identification of the pump is necessary through label data.

2. OPERATION GUARANTEE

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With the present document, manufacturer guarantees the good operation of the machine which is reported below:

TYPE	
SERIAL NUMBER	
PURCHASE DATE	
SUPPLIER : (stamp & signature)	

The present guarantee is valid for 12 months since the purchase date.

The manufacturer guarantees the good operation of the machine.

The present guarantee does not stand as long as:

- ◆ The machine was used for a different purpose from the one for which it was designed.
- ◆ The installation was not implemented with the proper way.
- ◆ The use did not match with its technical characteristics.
- ◆ Damages were made because of wrong use.

Apply to the constructive company for any doubt or question. Even after the end of the guarantee, we are willing to help you and give you the proper information. Never trust the maintenance or repair of your machine to people inexperienced and mainly do not try yourselves if you don't have the proper education.

The company also provides technical support (customer service) and has full range of spare parts of the present product.

3. LABELS WHICH ARE USED



This is a safety alert symbol. When you see this symbol on the product or on the manual, look for one of the following signal words and be alert to the potential for personal injury, death or major property damage.

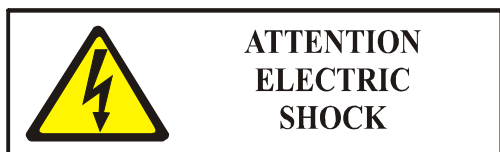


This symbol follows message relative to information that are reported in the present or in the accompanying handbook and should be taken under consideration.



This symbol follows indication.

Meeting the symbols above we become more careful for possible accidents or important points regarding the operation and should carefully read the message that follows.



Undetachment and uninsurance of the electric power before maintenance can cause electric shock, fire or even death.



If pumping hazardous or toxic fluids, system must be flushed prior to performing service.



Operation without guards in place can cause serious personal injury, major property damage, or death.



Disconnecting fluid or pressure containment components during pump operation can cause serious personal injury, death or major property damage.



Failure to relief system pressure prior to performing pump service or maintenance can cause personal injury or property damage.



Failure to disconnect and lockout electrical power or engine drive before attempting maintenance can cause severe personal injury or death.

4. INTRODUCTION TO THE MANUAL

We strongly recommend you to read carefully this manual before you try to install, operate and maintain the bottom valve.

We prepared it in order for you to reach maximum performance through operation. This manual refers to the installation, use and maintenance of the «**EMHKAM PUMPS**» **bottom valves** and aims on helping for the best processing of all the above. It also includes guarantee document with terms and conditions which validate it.

«**EMHKAM PUMPS**» Company does not have any responsibility for damages becoming from improper use or disobeying of the instructions included on the specific manual.



ATTENTION! This manual is an integral part of the **EMHKAM bottom valve** and should accompany it in every transfer of resale. It should be kept in a safe place and the staff has to be aware of it. The staff is also responsible for the good condition and safekeeping of the manual. In case of damage or loss you must ask for a new copy from the supplier.



Keep the manual in an ideal place close to the valve and popularize it to whom it may concern.



Never neglect to review this manual, independently from your previous experience. Few moments of study will save you time, money and most important from difficult situations.



Service shall be performed by qualified technicians **ONLY**. Service shall conform to all applicable local and national regulations and safety standards.

5. SAFETY MEASURES

5.1 Safety data



ATTENTION! Disobeying of the following can cause personal injury, death or major property damage.

◆ EMHKAM valves **MUST** only be installed in systems which have been designed by qualified engineering personnel. The system **MUST** conform to all applicable local and national regulations and safety standards.

◆ Valve installing, operation and maintenance shall be performed by qualified technicians **ONLY**. Service shall conform to all applicable local and national regulations and safety measures.

- ◆ Never proceed on changes relative to the valve in any way.
- ◆ Use only original spare parts of the manufacturing company.

6. INTENDED USE

6.1 Application field

EMHKAM bottom valves are used for the transport of the following:

- α) Transport of crude oil .
- β) Transport of bitumen.



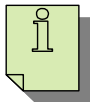
ATTENTION! Use only proper liquid in order to avoid damage or even corrosion of the gaskets and possible leak.



ATTENTION! Valves are the kind of equipment where surface temperature depends on the liquid temperature used. Overheating of the product can cause inappropriate operation and surface temperatures of the valve.




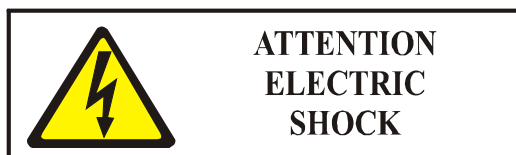
Operator of the valve should secure the safe temperature limits and never allow the temperature to exceed.



When EMHKAM PUMPS Company installs its products on to the fuel truck, it can also install the logo including company data on an obvious point of the truck, optionally. By this, EMHKAM PUMPS Company claims that equips the fuel truck with certified equipment and is available for any information and technical support.

7. INSTALLATION

 EMHKAM bottom valves must only be installed in systems designed by qualified engineering personnel. System design must conform to all applicable regulations and codes and provide warning of all system hazards.



Undetaching or uninsuring of the electric power before maintenance can cause electric shock, fire or even death. (Only in case pump is rotated through electromotor or is part of a pump station).



ATTENTION! Installation has to be done after make sure you have unplugged and secured the electrical power supply in case of electromotive valve.



ATTENTION! Electrical power supply has to be equal to the one mentioned on the technical data label.



ATTENTION! While electrical installing follow all the security rules. Ground the electrical circuit in any case.

7.1 VALVE MOUNTING

The valve principal purpose is to ensure that the liquid will not come out when there is in an emergency situation for example when the tanker overbalance. The purpose is achieved by mounting the valve inside the tanker.

The valve must be mounted inside at the bottom of the tanker in set square angle by specialized personnel. It is very important not to solder the valves bearing flange. Always solder the tanker's flange and then bolt on the bottom valve

The hand wheel mechanism must be mounted in 90 degrees angle in relation with the bottom valve. The mechanism must be perfectly soldered to the tanker's wall



ATTENTION! Never solder the valve's bearing flange.



ATTENTION! The valve's hand wheel mechanism must be set square angle to the bottom valve



ATTENTION! The handle wheel mechanism must be perfectly soldered at the tanker's wall

8. PART LIST-DIMENSION LIST

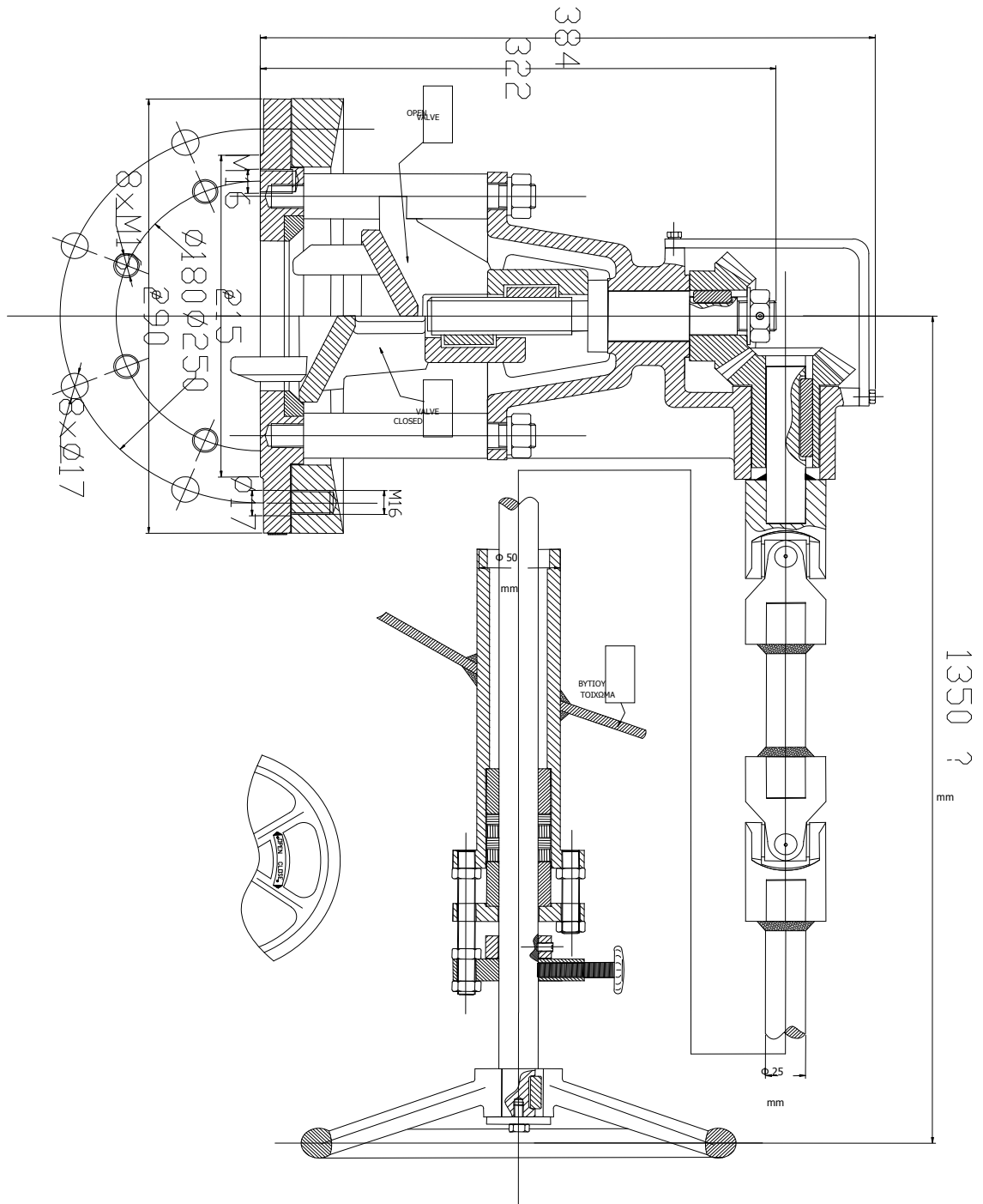
8.1 PART LIST



Instructions for installation, use & maintenance

DESCRIPTION	MATERIAL / DIMENSION	QUANTITY	CODE
BEARING FLANGE	H11	1	9001
TANKER FLANGE	/	1	9002
PRESSURED RING	INOX TP 304L	1	9003
BOLT-PILE	42GrMo4	4	9004
NUT	Ms58	1	9005
VALVE HINGE	GS-45	1	9006
VALVE BASE	GGG-40	1	9007
VALVE BOLT	42GrMo4	1	9008
TAG	St	1	9009
CHIPPING CHISEL	DIN1481 St	2	9010
SPHENE	DIN 6885 8x7x30 St 60	1	9011
COG WHEEL	M4-20 C45	1	9012
WASHER	DIN 125 St	1	9013
CHIPPING CHISEL	DIN14 5x32 St	1	9014
NUT	DIN 934 M20 QUALITY 8.8	1	9015
PROTECTING COVER	6mm St	1	9016
SPHENE	DIN 6885 8x7x50 St 60	1	9017
COG WHEEL	M4-20 C45	1	9018
HEX SCREW	M8*****QUALITY 8.8	1	9019
WASHER	*****	1	9020
CROSS TIE	Φ25 mm	2	9021
CONNECTING SHAFT	Φ25 mm	1	9022
NUT	DIN 934 M16 QUALITY 8.8	4	9023
GROVER WASHER	DIN 127	4	9024
CONNECTING SHAFT	Φ25 mm	1	9025
BOLT	DIN933,M6x15 QUALITY8.8	4	9026
GROVER WASHER	DIN 127	4	9027
HARD SOLDER			9028
MOUNTING RING	Ms58	2	9029
TEFLON NIPPER		4	9030
ROD	M10x50 QUALITY 8.8	4	9031
BEZEL	St 37	1	9032
HEADLESS ALLEN BOLT	M8x10 ST	1	9033
STRENGTHENING RING	St37	1	9034
SECURING BOLT	M10x60 QUALITY 8.8	1	9035
PERFORATED TUBE	St 35.8 / INOX TP304L	1	9036
FLANGE	St37 / INOX TP304L	1	9037
FLANGE	St 37	1	9038
ROD	M10x75 QUALITY 8.8	4	9039
NUT	DIN934 M10 QUALITY 8.8	8	9040
SPHENE	DIN6885 6x6x20	1	9041
HAND WHEEL	ALUMINIUM	1	9042
HEX SCREW	DIN933 M8x16 QUALITY8.8	1	9043
WASHER	DIN 127 St	1	9044
GROVER WASHER	DIN 127 St	1	9045
TAG	St	1	9046
RIVET	St	2	9047
CLAMPING LEVER	St	1	9048

8.2 DIMENSION LIST



9. OPERATION



Operation without guards in place can cause serious personal injury, major property damage, or death.



Disconnecting fluid or pressure containment components during valve operation can cause serious personal injury, death or major property damage.



Failure to relief system pressure prior to performing valve service or maintenance can cause personal injury or property damage.

9.1 OPERATING

The bottom valve must be operated only from qualified person. The operator must have read the instructions manual in order to have the appropriate knowledge of the product's parts. Before operating or travelling the personnel must check the valve (9.2).

The personnel must have knowledge of the safety instructions written in this manual.

When the valve is on the **“ON”** status the valve is open and the liquid is coming out of the tanker. When the operator wants to stop the liquid coming out of the tanker must turn the hand wheel to the **“CLOSE”** status.

Never let the valve in the **“ON”** status when the tanker is travelling. The valve must be well closed using the clamping lever provided.



ATTENTION! The valve must be operated by perfectly trained personnel.



ATTENTION! Always check the valve before operating.



ATTENTION! Always keep the valve in the “CLOSE” status when the tanker is travelling.

9.2 CHECKING THE VALVE

Check for leakage in the riddled axis. In case there is observed a leakage in the riddled axis, the nut that secures the impermeability between the riddled axis and the wheel axis must be heightened until the leakage is stopped. Otherwise the sealant material must be replaced.

Check for the damage of the outer mechanical parts of the valve and the wheel.

Check for the excellent condition of the signalling and the cleanness of the outer mechanical parts of the valve.

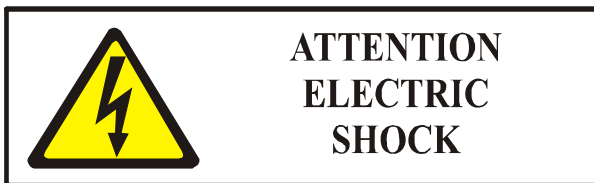


ATTENTION! Always check the for leakage at the riddled axis.



ATTENTION! Always make an external checking of the valve for the existence of a damage .

10.MAINTENANCE - CLEANING



**ATTENTION
ELECTRIC
SHOCK**

Undetachment and uninsurance of the electric power before maintenance can cause electric shock, fire or even death.



**DANGER
FROM ACID**

If transferring hazardous or toxic fluids, system must be flushed prior to performing service.



**ATTENTION
MACHINE IN
OPERATION**

Failure to disconnect and lockout electrical power or engine drive before attempting maintenance can cause severe personal injury or death.



Operation without guards in place can cause serious personal injury, major property damage, or death.



Disconnecting fluid or pressure containment components during valve operation can cause serious personal injury, death or major property damage.



Maintenance without evacuating the tanker from the liquid transferred can cause serious personal injury, death or major property damage.

10.1 CLEANING

The valve must in perfect cleaned condition in order keep the signaling in sight of the operator. Use self selection cleaning liquids.



ATTENTION! Always keep the valve clean.



ATTENTION! Do not use toxic cleaning liquids.

10.2 MAINTENANCE

The service of the valve must be done by perfectly trained personnel from authorized workshop. Communicate with **EMHKAM PUMPS** in order to avoid being serviced by unauthorized workshops. Use only original spare parts which provenly were supplied by **EMHKAM PUMPS**.

Replace the Teflon nipper every year.



ATTENTION! The service works must be done from authorized personnel



ATTENTION! Always use original spare parts.



ATTENTION! Replace the Teflon nipper every year.

11. TRANSPORT / STORAGE

Bottom valves do not need special transport conditions. They have to be protected from strokes

About storage, they must not be stored in a wet environment because there is danger of corrosion.



If the valve is stored for a long time and stays for a long time out of operation, you must replace the Teflon nipper before mounting or using.



When the valve is withdrawn, it is recommended to attend to a company that deals with material recycling. The specific company will disassemble the valve and divert it to a proper dimension for recycling or storing.



RECYCLING

12. THE COMPANY

Historical development and products

Thank you for choosing «**EMHKAM PUMPS**» Company and its products.

EMHKAM PUMPS was established on 1977. It is one of the top companies on liquid fuel pump production and on products for fuel truck equipment to Greece and one of the best worldwide.

The company manufactures different kinds of pumps such as **sliding vane pumps, bevel gear** and **vacuum pumps, pump stations** as well as **bottom valves, hose reels, filters, volumetric bars** and **rotary clips** for fuel trucks.

EMHKAM Company also undertakes responsibly **constructions** and **reconstructions** of pumps of senior manufacture.

EMHKAM manufactures and provides the biggest product variety on liquid fuel and viscously material transport. The specific range is constructed of perfect material quality and it is used on:

- a)** Tanks for gasoline, petrol, mazut, oil, tar, lubricant waste and chemical products transport.
- b)** Stations for storage and filtration of liquid fuel, mazut, tar, lubricant, waste and chemical products.
- c)** Industries of oil, paper, soap, chocolate and chemics production.
- d)** Shipyards – Shipping companies, ships for liquid fuel, mazut, waste carriage.

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